

consider separate national certification. RID's proposal would arbitrarily render these interpreters unqualified overnight, even though many of them are highly skilled and trained, have been working as interpreters for years, and have already been certified at the state level.

Third, imposing a new narrow certification requirement would immediately shrink the pool of available interpreters at a time when there are already concerns about inadequate supply.¹⁹⁶ Simply put, the number of interpreters needed to provide nationwide VRS far outstrips the ability of NAD-RID to certify them—and while NAD-RID certification has value in demonstrating some level of proficiency and skill, the test itself does nothing to actually train interpreters for the unique job of handling VRS calls. Moreover, it is important to recognize that there are several kinds of NAD-RID certification—including, for example, “Certified Deaf Interpreter” certification. Depending on what kind of certification RID thinks would be required under its proposal, the pool of qualified interpreters could shrink even further, which would exacerbate the problem. As basic supply and demand principles dictate, shrinking the supply of qualified interpreters in this arbitrary manner would drive up interpreting costs across the board—for VRS providers and for any community interpreting that requires certified interpreters. This would of course impose ever greater strains on the TRS fund as the cost of providing service would rise dramatically.

Moreover, imposing a NAD-RID certification requirement would create a huge financial windfall for RID and effectively give it a monopoly and gatekeeping control over the most critical element of VRS. It would also create an enormous backlog: many skilled video interpreters who are currently working at the highest levels even without NAD-RID certification

¹⁹⁶ See VIU PN Comments at 2.

would immediately apply for certification in hopes of preserving their livelihoods, and that flood of applications would likely overwhelm NAD-RID's ability to process them. Additionally, as history has shown, RID may also suspend all certification testing for weeks, months, or even longer without prior notice, which would effectively prevent any VRS provider from hiring new interpreters. Moreover, even when RID testing has not been suspended, wait times for results have at times in the past exceeded nine months. Relying on just one certifying body for the entire industry would put a single breaking point in the system. When that point breaks, the entire hiring system will grind to a halt. There must be multiple points of entry for people to gain access to the field on VRS interpreting; relying on a single gatekeeper would cripple VRS providers' ability to hire enough interpreters to meet both customer expectations and speed of answer requirements.

Finally, while NAD-RID certification often signals that an interpreter is skilled, that is not always the case. Sorenson has hired many NAD-RID certified interpreters, and many of them work successfully as highly skilled VRS interpreters after completing Sorenson's rigorous training program. But NAD-RID certification is not a guarantee of quality, as many interpreters who come to Sorenson with NAD-RID certification in hand have not lived up to Sorenson's exacting standards. This track record confirms Sorenson's view that VRS providers themselves are best situated to identify, hire, and train the interpreters they need.

For all of these reasons, Sorenson reiterates its view that a national certification requirement is not necessary or advisable. Sorenson reiterates its commitment to highly-skilled interpreting as a key component in moving toward functional equivalence, and it is not opposed to refinements to the existing interpreter qualification standards reflected in the FCC's rules. Adopting a national certification requirement, however, would lead to cascading complexities

that would ultimately disserve consumers, disenfranchise qualified interpreters, and increase the burden on the TRS Fund. Among other complexities, imposing a national certification requirement would oblige the Commission to resolve the conflict with state laws that require state-level (not national) certification; determine whether RID must assume responsibility for consumer complaints about VRS interpreter quality; and take steps to ensure an adequate supply of qualified interpreters to meet VRS demand, particularly in light of the long time period—and four-year college degree—needed to obtain NAD-RID certification.

B. To Preserve Consumer Choice and Competitive Incentives, the Commission Should Reject Calls to Limit the VRS Industry to a Single Provider—Just as It Should Decline to Limit Competition by Mandating a Single Standardized VRS Endpoint or a Dramatically Expanded Role for a Centralized Administrator.

Sorenson strongly opposes the suggestion offered by VIU that having just one VRS provider would best promote consumer choice and quality communications access.¹⁹⁷ In support of its position, VIU contends that limiting the market to a single provider would ensure that the best of the video interpreter talent pool and the latest technological innovations are available to all VRS users.¹⁹⁸ VIU argues further that reducing the industry to a single provider would eliminate competition based on interpreter quality—an outcome that it favors because, it contends, a marketplace in which providers compete based on interpreter quality “toy[s] with the linguistic human rights of Deaf people.”¹⁹⁹

Sorenson disagrees with VIU’s position completely. As Sorenson argued throughout its comments, competition at every level of VRS directly advances the interests of consumers by

¹⁹⁷ See VIU PN Comments at 2.

¹⁹⁸ See *id.*

¹⁹⁹ *Id.* at 3.

fostering innovation, efficiency, and improvements.²⁰⁰ Encouraging providers to compete on several different levels (*e.g.*, interpreter quality, endpoint design, customer service, network operations, enhanced features, etc.) gives them clear incentives to differentiate themselves from their competitors by striving for excellence—all of which directly benefits consumers. Thus, while Sorenson believes that it is the only entity with the capability to serve as a single provider responsible for the entire industry, it is strongly opposed to any changes that lead to that outcome. The impact on consumers, competition, and choice would be unacceptably severe. As noted in its comments, Sorenson supports competition at every level in the provision of VRS, and it steadfastly opposes any proposal to reduce competition—including VIU’s proposal for a single VRS provider, ZVRS’s proposal for a single standardized VRS endpoint application, or the creation of a centralized provider of a wide array of network operations and enhanced features.

C. Sorenson Supports Calls for Skills-Based Routing, Subject to Important Safeguards.

In keeping with its commitment to ensuring that consumers continue to have access to world-leading VRS provided by competing providers, Sorenson agrees that providers should be permitted to offer users access to interpreters with particular skills in certain subject matters, like medicine, law, or technology. As ASL/Gracias explained in its comments, this kind of skills-based routing can beneficially match VRS users with interpreters who are particularly qualified to handle particular kinds of conversations.²⁰¹

²⁰⁰ See Sorenson PN Comments at 67; *see also* Convo PN Comments at 10 (“Smaller providers are the primary source of the innovation in the VRS market that improves the VRS consumer experience.”).

²⁰¹ ASL/Gracias PN Comments at 18.

Sorenson's support for skills-based routing is not unequivocal, however. As Sorenson explained in its reply comments in response to the FNRPM, the Commission should only consider skill-based routing if it also develops parameters and safeguards to ensure it does not do more harm than good.²⁰² First, and perhaps most critically, skills-based routing should be an optional feature that providers *may* offer at their election, since it may not be possible for every provider to locate and hire interpreters who can handle every type of unique interpreting skill that may be needed. Moreover, providers almost certainly would not be able to have those capabilities available 24 hours per day. Accordingly, to account for the difficulty in identifying, recruiting, and training interpreters with particular skills, the Commission should implement skills-based routing as a voluntary adjunct to VRS. If the Commission were to make skills-based routing mandatory despite the challenges in recruiting interpreters with particular skills, it must clearly identify which skills a caller may request (*e.g.*, law, medicine, personal finance, etc.) so that providers can strive to recruit the interpreters they will need (or provide additional training to the interpreters they already employ) to fulfill the mandate.

In addition, the Commission should recognize that interpreters with a particular unique skill may not always be available. Accordingly, any skills-based routing rules must be flexible enough to enable providers to support the service when staffing capabilities allow it, but not to penalize them when staffing constraints make it impossible. For the same reason, the fact that an interpreter skilled in a particular area may not always be available—or may be occupied on another call when a second user requests the same skill—means that the speed of answer

²⁰² Sorenson FNPRM Reply Comments at 49-51.

requirements should not apply in any case where a user requests to be routed to an interpreter with a particular skill.

Moreover, having skill in a particular area does not mean that an interpreter will be able to interpret any call on that topic (no matter the depth of the conversation or the tangents it takes) without any errors. Accordingly, the Commission must also recognize that the VRS provider and interpreter cannot guarantee error-free specialized interpretation, and they cannot be liable for any inadvertent mistakes that may occur.²⁰³ Finally, the Commission will have to make adjustments to the compensation regime before implementing any skills-based routing program—particularly if it maintains a cost-of-service approach to ratemaking—as skills-based routing would require additional training for interpreters, higher wages for those interpreters with specialized skills, and technological changes to providers’ internal call routing operations—all of which would generate new costs.

D. The Commission Should Preserve Protections for Sensitive Financial Information and Other Confidential Information.

Convo argues in its comments that “all cost information submitted by VRS providers to the Commission and the Administrator should be made public and the compensation payments to VRS providers from the TRS Fund also should be publicly disclosed.”²⁰⁴ In keeping with Commission precedent—including the protective orders issued in this very proceeding—Sorenson strongly opposes Convo’s proposal, as it would discourage providers from filing the

²⁰³ On a related subject, the Commission would have to consider who would determine whether an interpreter has the requisite skill needed for a particular call—the interpreter himself or herself, the VRS provider, a certifying body? If some form of specialized certification is required, the Commission must recognize the complexities that would entail, including higher costs, certification bottlenecks, and limited supply (as explained in more detail in Section V.A, above).

²⁰⁴ Convo PN Comments at 14.

sensitive information that is critical to enabling the Commission to reform the VRS industry successfully and sustainably.

The Commission itself has frequently recognized the need to protect sensitive financial information in order to preserve competition. Most recently, in its Fifth Report and Order on Reconsideration of the *USF/ICC Transformation Order*, the Commission found that “in some instances there could be a potential for competitors to use the submitted financial data ... in an anticompetitive manner.”²⁰⁵ For that reason, the Commission allowed privately-held carriers (*i.e.*, those that do not have to file comparable information publicly for other reasons) to “file the financial data...subject to a Protective Order.”²⁰⁶

The Commission explained further that these protections were necessary only for carriers serving single study areas because, unlike carriers that can aggregate data from several study areas, single-study-area carriers’ filings can be more easily dissected to determine revenues and profits associated with particular services offered in particular markets.²⁰⁷ For purposes of assessing confidential treatment of data, the provision of VRS is comparable to serving a single study area, since all VRS providers serve customers under a single nationwide program subject to a single nationwide rate regime. As with a carrier that serves just one study area, it would be relatively easy to determine any VRS provider’s revenue and profit data associated with the provision of VRS if its sensitive financial information were made public. This, in turn, would

²⁰⁵ *Connect America Fund, A National Broadband Plan for Our Future, Establishing Just and Reasonable Rates for Local Exchange Carriers, High-Cost Universal Service Support, Developing a Unified Intercarrier Compensation Regime, Federal-State Joint Board on Universal Service, Lifeline and LinkUp, Universal Service Reform—Mobility Fund*, Fifth Order on Reconsideration, FCC 12-137, 2012 WL 5862449, ¶ 15 (rel. Nov. 16, 2012).

²⁰⁶ *Id.*

²⁰⁷ *See id.*

make it relatively easy “for competitors to craft business plans that capitalize on their knowledge of the [provider’s] reported finances,”²⁰⁸ just as the FCC warned in the Fifth Report and Order on Reconsideration. Accordingly, the same protections are therefore warranted here.

Moreover, the Court of Appeals for the District of Columbia Circuit has reached the same conclusion in the context of disclosures under the Freedom of Information Act (“FOIA”). In particular, the D.C. Circuit held that “commercial or financial matter is ‘confidential’ for purposes of [determining whether it must be made available in response to a FOIA request] if disclosure of the information is likely to have either of the following effects: (1) ... impair the Government’s ability to obtain necessary information in the future; or (2) ... cause substantial harm to the competitive position of the person from whom the information was obtained.”²⁰⁹ Convo’s proposal would produce both of these effects, and confidential treatment is therefore required.

Even more to the point, the Commission has already assessed the question and determined that protections are warranted in this very context. When it released its first Protective Order in this proceeding, the Commission recognized that the “sensitive nature” of the information providers would submit justified affording to protections against unwarranted disclosure.²¹⁰ Likewise, in its Second Protective Order, the Commission noted the need to impose even greater limitations on “access to certain especially competitively sensitive information ... which, if released to competitors ... would allow those persons to gain a

²⁰⁸ *Id.* at ¶ 16.

²⁰⁹ *Nat’l Parks & Conservation Ass’n v. Morton*, 498 F.2d 765, 770 (D.C. Cir. 1974).

²¹⁰ *Structure and Practices of the Video Relay Service Program, Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Protective Order, DA 12-402, 27 FCC Rcd. 2557, ¶ 1 (2012).

significant advantage in the marketplace or in negotiations.”²¹¹ The Commission again considered the public’s right to access and the corresponding need to protect particularly sensitive information, and it reached the appropriate conclusion that subjecting sensitive information to the safeguards of a protective order “serve[s] the public interest.”²¹²

Nothing in Convo’s proposal counters the Commission’s reasoned conclusion that public disclosure of sensitive financial information submitted in this proceeding could lead to unfair competitive advantages for the competitors who receive it. Accordingly, the Commission should dismiss Convo’s proposal.

²¹¹ *Structure and Practices of the Video Relay Service Program, Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Second Protective Order, DA 12-858, 27 FCC Rcd. 5914, ¶ 1 (2012).

²¹² *Id.* at ¶ 1.

VI. CONCLUSION

The record confirms that each of the proposals contained in the PN—whether viewed individually or in aggregate—would devastate VRS as we know it. In the myriad ways catalogued in Sorenson’s PN comments and the analysis above, the proposals would obliterate the financial structure of every VRS provider, freeze investment in the industry, fail to curtail fraud, eliminate consumer choice, require consumers to abandon the endpoints they prefer, undermine incentives to innovate, forcibly discard existing functionalities that users value greatly, generate enormous technical problems (and, as a result, dropped calls or call failures), and ensure disastrous customer support and customer relations experiences. The proposals should be rejected.

Respectfully submitted,



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November 29, 2012

Attachment A

REPLY COMMENTS ON VRS POLICY

Declaration of Michael L. Katz

November 29, 2012

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I. INTRODUCTION AND OVERVIEW

1. At the request of counsel for Sorenson Communications, Inc. (Sorenson), I conducted an economic analysis of the likely effects on competition and consumer welfare of the proposals described in a public notice issued by the Consumer and Governmental Affairs Bureau.¹ My broad conclusion was that implementing these proposals would be likely to quash competition (in some cases by design), stifle innovation, and degrade the quality of services offered to deaf and hard-of-hearing consumers.²

2. I have been asked by counsel for Sorenson to conduct an analysis of the central economic arguments made in filings submitted in this proceeding contemporaneously with my previous declaration.³ There is substantial agreement among many of the commenters about several of the conclusions I reached in my earlier declaration. These commenters include both consumer representatives and competing service providers.

3. Most notably, Telecommunications for the Deaf and Hard of Hearing, Inc., the Association of Late-Deafened Adults, Inc., the National Association of the Deaf, the Deaf and

¹ *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 08-123 and 10-51, Additional Comment Sought on Structure and Practices of the Video Relay Service (VRS) Program and on Proposed VRS Compensation Rates, October 15, 2012 (hereinafter *Public Notice*).

² *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, Response to Additional Comments Sought on VRS Policy Reform, Attachment A to Comments of Sorenson Communications, Inc., November 13, 2012 (hereinafter *Katz PN Declaration*).

³ I have not attempted to identify and analyze every argument made. The fact that an argument may have been raised without my discussing it below does not indicate that I support that argument or believe that its conclusions are correct.

Hard of Hearing Consumer Advocacy Network, the California Coalition of Agencies Serving the Deaf and Hard of Hearing, the National Black Deaf Advocates, Inc., the Cerebral Palsy and Deaf Organization, the Alexander Graham Bell Association for the Deaf and Hard of Hearing, and the American Society for Deaf Children (collectively, Consumer Groups) all broadly oppose CSDVRS's and the Commission's proposals to radically restructure the industry in ways that would eliminate competition and reduce consumer choice.⁴ The fact that Consumer Groups oppose these proposals should come as no surprise; these proposals are manifestly anti-consumer and would deny deaf and hard-of-hearing consumers functional equivalence and would threaten the availability of VRS.

4. VRS providers other than CSDVRS generally join Consumer Groups in opposing the proposed industry restructuring. Specifically:

- Consumer Groups, Rehabilitation Engineering Research Center on Telecommunications Access (RERC), ASL Services Holdings, LLC (ASL Holdings) and Purple Communications, Inc. (Purple) agree that creating a

⁴ *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, Comments of Consumer Groups in Response to Public Notice Seeking Additional Comments on Structure and Practices of the Video Release Service (VRS) Program and on Proposed VRS Compensation Rates, CG Docket Nos. 10-51 and 03-123, November 14, 2012 (hereinafter *Consumer Groups Comments*).

monopoly-franchise VRS application would deny choice to deaf and hard-of-hearing consumers and stifle innovation;⁵

- RERC, Consumer Groups, ASL Holdings and Purple agree that relying only on off-the-shelf hardware would harm consumers by denying them choice and stifling innovation;⁶ and
- RERC and Purple agree generally that severing access-related elements of video communications services (*e.g.*, user registration and validation, authentication, call routing, and usage accounting) from other components of VRS risks blocking the realization of economies of scope, creates greater uncertainty with respect to rate

⁵ *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, Comments of the Rehabilitation Engineering Research Center on Telecommunications Access, CG Docket Nos. 10-51 and 03-123, November 14, 2012 (hereinafter *RERC Comments*) at ii; *Consumer Groups Comments* at i and ii; *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, Comments of ASL Services Holdings, LLC, CG Docket Nos. 10-51 and 03-123, November 14, 2012 (hereinafter *ASL Holdings Comments*) at 7; *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, Purple Communications, Inc. Comments to Public Notice on Structure and Practices of the Video Relay Services Program, CG Docket Nos. 10-51 and 03-123, November 14, 2012 (hereinafter *Purple Comments*) at 1 and 2.

⁶ *RERC Comments* at 3-7; *Consumer Groups Comments* at 12 and 13; *ASL Holdings Comments*, note 7 and at 7; *Purple Comments* at 5.

setting, and may reduce provider accountability to deaf and hard-of-hearing consumers.⁷

5. There is widespread agreement that there is a better way to promote competition and consumer welfare. As do I, RERC, Consumer Groups, ASL Holdings, Convo Communications, LLC (Convo), and Purple all conclude that the Commission should support a process designed to develop common implementation of baseline standards.⁸

6. There is also widespread agreement among Consumer Groups and VRS providers (*i.e.*, ASL Holdings, Convo, CSDVRS, and Purple) that RLSA's rate proposal is problematic, in large part because low compensation rates threaten the quality and availability of VRS to deaf and hard-of-hearing consumers.⁹

⁷ *RERC Comments* at ii; *Purple Comments* at 9-11.

⁸ *RERC Comments* at ii; *Consumer Groups Comments* at i; *ASL Holdings Comments* at 5; *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, Comments of Convo Communications, LLC in Response to October 15, 2012 Public Notice, CG Docket Nos. 03-123 and 10-51, November 14, 2012 (hereinafter *Convo Comments*), §IV; *Purple Comments* at 5-7.

⁹ *Consumer Group Comments* at i and ii; *ASL Holdings Comments*, §VI; *Convo Comments*, §III; *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, Comments of CSDVRS, LLC, CG Docket Nos. 10-51 and 03-123, November 14, 2012 (hereinafter *CSDVRS Comments*), §I; *Purple Comments*, §III.A.

7. In addition, some VRS providers continue to argue that economies of scale are important in the VRS industry and justify the continued use of tiered pricing.¹⁰ I previously examined this issue and concluded that:¹¹

- A compensation system of declining rate tiers harms deaf and hard-of-hearing consumers by supporting inefficient competitors and distorting competition.
- A single-tiered compensation system would benefit deaf and hard-of-hearing consumers—as well as telecommunications users more generally—by promoting efficiency and undistorted competition.
- An examination of economies of scale demonstrates that declining compensation tiers are not needed to promote quality competition.

8. With the exception of two VRS providers, no commenter responded to the *Public Notice* by submitting new theoretical or empirical evidence bearing on this issue. Purple submitted a new analysis regarding economies of scale, supported by an expert declaration,

¹⁰ See, in particular, *CSDVRS Comments*, §I.B; *Purple Comments*, §III.B.

¹¹ *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, An Economic Analysis of VRS Policy Reform, Appendix A to Comments of Sorenson Communications, Inc., March 9, 2012 (hereinafter *Katz NPRM Declaration*), § III. See also *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, Reply Comments Regarding VRS Policy Reform, March 30, 2012 (hereinafter *Katz NPRM Reply Declaration*), § II.

and CSDVRS submitted data on SG&A costs per minute and volumes.¹² I focus my analysis below on these submissions.

9. Briefly, my findings regarding these submissions are the following:

- My earlier conclusions regarding the degree of economies of scale and the desirability of a single compensation tier, summarized above, remain valid.¹³
- The analysis offered by Purple's expert, Mr. Turner, suffers from several serious defects. First, his criticisms of my earlier analysis of queuing efficiencies are incorrect and/or irrelevant. Second, he draws illogical conclusions from changes in VRS providers' costs over time. Indeed, as I demonstrate below, it is logically impossible for the data to represent what Mr. Turner believes they represent. Third, his claims regarding cross-firm comparisons are unfounded.
- CSDVRS's claims regarding the magnitude of economies of scale support the conclusion that a single-tiered system would promote competition and consumer welfare. In particular, CSDVRS's figures support the finding that economies of

¹² *CSDVRS Comments*, §I.B; *Purple Comments*, §III.B and Addendum A.

CSDVRS had previously submitted this analysis in an *ex parte* filing in July 2012. See *Structure and Practices of the Video Relay Service Program; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket Nos. 10-51 and 03-123, *Ex Parte* of CSDVRS, LLC, Attachments, July 10, 2012.

¹³ More broadly, nothing in any of the comments filed in response to the *Public Notice* causes me to change the conclusions I reached in my previous declarations. (See *Katz NPRM Declaration*; *Katz Reply NPRM Declaration*; and *Katz PN Declaration*.)

scale in the VRS industry are sufficiently small that multiple providers can operate efficiently.

10. I also briefly address the ongoing issue of what costs should be included if the Commission pursues a cost-based, administrative rate-setting process. If the Commission uses an administrative process to set compensation rates, then it should set rates that correspond to those that would emerge from the use of a competitive-bidding process. By mimicking the competitive process, such rates would promote efficiency of the VRS program and benefit consumers by promoting the availability of VRS and encouraging functional equivalence. One implication of this general principle is that all of the costs of providing service, including call center and interpreter costs, marketing and outreach costs, administrative costs (including product management, engineering, customer support, general and administrative, human resources, information technology, and technical support), taxes, and investment costs including principal and interest, should be included in the rate because a potential bidder would take into account all of the costs of providing service when choosing whether to bid or to exit the industry.

11. The remainder of this declaration explains these findings in greater depth and provides details of the facts and analysis that led me to reach them.

II. COMMENTS FILED BY OTHER VRS PROVIDERS FAIL TO DEMONSTRATE THAT ECONOMIES OF SCALE IN THE PROVISION OF VRS ARE SUFFICIENTLY IMPORTANT TO JUSTIFY TIERED PRICING

12. Several commenters argue that economies of scale in the provision of VRS are important.¹⁴ However, none of these arguments overturns the conclusion that a compensation scheme with only a single rate would enhance consumer welfare for the reasons I discussed previously.¹⁵

A. MR. TURNER'S ANALYSIS SUFFERS FROM SEVERAL SERIOUS FLAWS.

13. Purple submitted an expert declaration by Steven E. Turner, which purports to show that “the VRS industry is characterized by significant economies of scale” and “the suggestion that CA costs do not benefit from economies of scale is unfounded and contradicted by all available evidence.”¹⁶ Mr. Turner makes several arguments that he claims support his conclusion that economies of scale in the provision of VRS services are important. These arguments include:¹⁷

¹⁴ See *CSDVRS Comments*, §I.B; *Purple Comments*, §III.B; *ASL Holdings Comments* at 14; *Convo Comments*, §III.C; although the latter two provide no new empirical or theoretical evidence.

¹⁵ See *Katz NPRM Declaration*, § III.

¹⁶ *Structure and Practices of the Video Relay Service Program and Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, Further Notice of Proposed Rulemaking*, CG Docket Nos. 10-51 and 03-123, Report of Steven E. Turner, Addendum A to Comments to Public Notice on Structure and Practices of the Video Relay Services Program, November 14, 2012 (hereinafter *Turner Report*), §§ II.B and II.C.

¹⁷ Mr. Turner also tries to make an argument based on an analogy to stock portfolios. (*Turner Report*, ¶¶ 32-35.) In doing so, he misunderstands and misapplies the concept of Beta from the capital asset pricing model. He measures riskiness by volatility, and he asserts that Beta measures the riskiness of a portfolio relative to the overall market, with a Beta of less than one

- a critique of previous submissions that use Erlang C models to demonstrate that economies of scale in the provision of interpreters are exhausted at a low percentage of industry output;
- a comparison of VRS providers' costs over time;¹⁸ and
- a comparison of certain costs across VRS providers.¹⁹

Each of these analyses is flawed and potentially misleading.

1. Mr. Turner's criticisms of my analysis of queuing efficiencies are incorrect and/or irrelevant.

14. In my earlier declaration, I employed an Erlang C model to demonstrate that economies of scale in the provision of interpreters are exhausted at a low percentage of industry output.²⁰ Mr. Turner acknowledges that "Erlang-C is undoubtedly useful in evaluating the staffing needs of call centers within an organization," but he then makes several technical criticisms of the model.²¹ However, many of these criticisms are incorrect and/or irrelevant. More generally, Mr. Turner does not attempt to demonstrate that any of his

indicating the portfolio is less risky (volatile) than the market. He also says that as a portfolio's size grows, its Beta tends towards one and it becomes less risky. In fact, a portfolio's Beta measures the normalized covariance of its returns with those of the market, not the riskiness of a portfolio relative to the overall market. (See, e.g., Richard Brealey, Stewart Myers and Franklin Allen, *Principles of Corporate Finance* (Ninth Edition), McGraw-Hill, 2008, at 193 and 194.) For example, a particular investment may be extremely volatile but be completely uncorrelated with the overall market, in which case it has a Beta of zero. Moreover, if one begins with a very safe asset and adds a volatile asset, the larger, more-diversified portfolio is more volatile than the original one.

¹⁸ *Turner Report*, § II.

¹⁹ *Turner Report*, Figure 1 and ¶ 42.

²⁰ *Katz NPRM Declaration*, § III.B.1.

²¹ *Turner Report*, ¶ 25.

criticisms are empirically important or that the basic conclusion that economies of scale in the provision of interpreters are exhausted at a low percentage of industry output is incorrect. Nor does Mr. Turner present any analysis regarding the levels of VRS efficiencies attained by Purple or claim that Purple has not reached sufficient scale to attain the preponderance of possible VRS efficiencies. As I demonstrate below, the fundamental conclusion that economies of scale in the provision of interpreting services are exhausted at low volumes is robust to the criticisms presented by Mr. Turner.

15. Mr. Turner first points out that staffing is based on peak loads, which vary over time.²² As I discussed in my earlier declaration, I account for this variation by modeling staffing needs for each hour of the week based on Sorenson's call distribution throughout the week, scaled up or down to reflect different VRS provider sizes.²³ This accounts for the fact that call centers are likely to be less busy on nights and weekends. Mr. Turner presents no evidence that this approach is unreasonable. Moreover, while modeling the call distribution in a more disaggregated fashion undoubtedly makes the model more realistic, there is no evidence that it substantively changes the conclusions. For example, Dr. Pelcovits reached substantially the same conclusions based on an Erlang C model that assumed constant call volumes over 8- and 24-hour periods.²⁴

²² *Turner Report*, ¶ 26.

²³ *Katz NPRM Declaration*, ¶ 33.

²⁴ Declaration of Michael D. Pelcovits, Attachment A to *In the Matter of Structure and Practices of the Video Relay Services Program*, CG Docket No. 0-51, Reply Comments of Sorenson Communications, Inc. (May 21, 2010).

16. Mr. Turner next claims that “[g]iven the known weaknesses of Erlang-C, most modern call centers use much more sophisticated staffing models.”²⁵ The Erlang C model has been employed by previous commenters in this proceeding, including GoAmerica (a predecessor to Purple, the firm on whose behalf Mr. Turner submitted his testimony), to assess the magnitude of economies of scale in the provision of interpreting services.²⁶ It is also my understanding that Sorenson currently uses a version of the Erlang C model to manage its call center staffing.²⁷ Mr. Turner does not state whether Purple currently uses an Erlang C model or a “much more sophisticated” staffing model.

17. Third, Mr. Turner suggests that I should have used different parameter values as model inputs. Specifically, he asserts that there is no basis to assume that the maximal feasible VRS efficiency is 50 percent.²⁸ As a statement about what happens over a short period, say 10 minutes, this assertion is correct but irrelevant. What is relevant is what happens over a longer period of time, which governs the average efficiency that a VRS provider can attain. As I stated in my initial declaration, “Sorenson and other industry

²⁵ *Turner Report*, ¶ 27.

²⁶ See *Katz NPRM Declaration*, note 56 and cites therein.

Moreover, GoAmerica employed an Erlang C model from the same source and made very similar assumptions to those that I made. (*In re Telecommunications Relay Services for Deaf and Hard of Hearing and Speech Disabled Persons*, CG Docket No. 03-123, Petition for Rulemaking, GoAmerica, Inc. (January 23, 2009) (hereinafter *GoAmerica Comment*) at 5 and 6.)

²⁷ Interview with Jason Dunn, Vice President, Operations, Sorenson Communications, Inc., February 16, 2012; Interview with Jason Dunn, Vice President, Operations, Sorenson Communications, Inc., and Chris Wakeland, Vice President, Interpreting, Sorenson Communications, Inc., November 20, 2012.

²⁸ *Turner Report*, ¶ 30.

participants believe that VRS efficiency levels significantly above 50 percent are infeasible.”²⁹ Moreover, GoAmerica made an identical assumption in a previous filing.³⁰ Notably, Mr. Turner provides no empirical evidence to support his claims regarding actual average efficiency levels. Nonetheless, I show below that my conclusions are robust to assuming higher maximal attainable VRS efficiencies.

18. In addition to attacking my choice of the efficiency parameter, Mr. Turner argues that competitive pressures may induce VRS providers to target service levels that exceed the statutory mandate of answering 80 percent of calls within 120 seconds. Indeed, Sorenson does exceed those service levels, targeting a service level of *****BEGIN HIGHLY CONFIDENTIAL***** percent of calls answered within *****BEGIN HIGHLY CONFIDENTIAL***** seconds.³¹ In my earlier declaration, I followed previous commenters

²⁹ *Katz NPRM Declaration*, ¶ 32.

Sorenson has observed that efficiency levels above 50 percent are attainable for short periods of time but are otherwise unsustainable because higher efficiency levels lead to injuries and employee attrition if maintained for significant periods of time. (Interview with Jason Dunn, Vice President, Operations, Sorenson Communications, Inc., and Chris Wakeland, Vice President, Interpreting, Sorenson Communications, Inc., November 20, 2012.)

³⁰ Mr. Turner characterizes this assumption as a hypothetical. (*Turner Report*, note 30.) But the GoAmerica filing makes clear that requiring interpreters to interpret in excess of 50 percent of work time can lead to repetitive-stress injuries. Specifically, in applying an Erlang C model, GoAmerica adjusted “the number of required interpreters to avoid situations where the interpreter would interpret in excess of 50 percent of work time in order to avoid repetitive stress injuries.” GoAmerica also noted that “[o]ther input assumptions would yield results similar to, although obviously not identical to, that set forth in the example.” (*GoAmerica Comment*, note 3.)

³¹ Interview with Jason Dunn, Vice President, Operations, Sorenson Communications, Inc., and Chris Wakeland, Vice President, Interpreting, Sorenson Communications, Inc., November 20, 2012.